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Report Highlights:

The Philippines remain a net food importer. The continuing trend of higher global food prices is compelling Philippine food security policy to give more serious attention to increasing domestic food production, including the use of modern agricultural biotechnology to raise agricultural productivity. As such, the country remains a strong advocate for the safe and responsible use of the technology.

Includes PSD Changes: No
Includes Trade Matrix: No
Annual Report
Manila [RP1]
[RP]

I. Executive Summary

The Philippines remain a consistent and strong supporter of rational and science-based biotechnology. Under its current regulatory regime provided for under the Department of Agriculture's Administrative Order No. 8 (DA-AO 8), 28 transformation events (TEs) and 18 combined or stacked trait products have been approved for direct use as food, feed or propagation. Guided by DA-AO 8, the first genetically enhanced (GE) crop being developed locally will likely be commercialized by early 2009. Other GE crops currently under research are expected to follow shortly, especially encouraged now by increasing food prices.

Soaring food and oil prices are driving Philippine inflation up and the increasing prices are not expected to settle any time soon. High global grain prices and the renewed weakness of the Philippine Peso have exacerbated the situation making grain importation very costly. With one of the highest population growth rates in Asia, calls for a serious review of Philippine economic and food security policy is expected. Policy adjustments that give more attention to domestic agricultural production, including the use of GE crops, have been expressed at the highest government levels. This will likely enhance the safe and responsible use and acceptance of modern agricultural biotechnology and its derived products in the future.

DA-AO 8 is expected to remain in effect although some refinements are possible as a result of an ongoing review of the existing guidelines. When finalized and issued, these revised guidelines are expected to remain science-based and will clarify further the scope and roles the various departments play in biosafety decision-making.

II. Biotechnology Trade & Production

The United States continues to be the number one market for Filipino agricultural exports. Last year record sales reached \$992 million representing an 8 percent increase over the previous year. Major agricultural products exported were coconut oil (\$314 million), tropical fruits and vegetables (\$130 million), sugar (\$71 million), and fish and seafood products (\$248 million). So far, there are no known Philippine exports of GE food products to the U.S. or elsewhere.

On the other hand, the top U.S. exports last year to the Philippines were wheat (\$351 million), soybean and soybean meal (\$216 million), dairy products (\$152 million), feeds (\$41 million) snack foods (\$41 million), processed fruits and vegetables (\$51 million) and red meats – chilled/ frozen and prepared (\$32 million). U.S. exports of consumer-oriented products remain comparatively strong and are the best prospects for future growth. Other major exports include breakfast items, dairy products, poultry, tree nuts, wine, pet food, fruit and vegetable juice and fresh produce. The United States is the largest food and beverage supplier to the Philippines.

Certain regulated articles for importation require a declaration of GMO content under the current Philippine biotechnology regulations. These articles are provided in:

<http://www.biotech.da.gov.ph/document%20for%20the%20web/Annexes/annex%20III.pdf>

The number of TEs approved for commercial production or propagation remains unchanged from the previous annual report's level at three (3), namely: Monsanto's Corn MON810, Corn NK 603, and Syngenta's Corn Bt 11 (see Appendix A). In addition to the approved TEs, one (1) stacked or combined trait corn variety (Corn MON810 x Corn NK603) comprises the four (4) biotech crop varieties approved for propagation.

In 2007, the Philippine Bureau of Plant Industry (BPI) estimated the total area planted to GE corn at over 310,000 hectares or roughly triple the estimated 100,000 hectares planted the previous year. Bt corn (Bt11 and MON810) was planted to 123,000 hectares; roundup ready corn (NK603) planted to 71,000 hectares; and the combined roundup ready and Bt corn variety (NK603 x MON810) planted to 120,000 hectares. The increase in GE corn use helped raise overall corn production last year exceeding 6.7 million MT for the first time. The total area planted to GE corn last year, however, remains insignificant relative to total national area planted to corn. This presents very positive prospects for increased GE corn use in the next 3-5 years (see Marketing Issues).

Regulated articles approved for field testing is provided in the following table. Since 2004, six (6) GE crop field trials have been approved, for a slight increase from the number of approved field tests reported in GAIN 7026.

APPROVAL REGISTRY FOR FIELD TESTING of REGULATED ARTICLES as of January 8, 2008		
Proposal	Technology Developer	Date Approved
1. Demonstration of weed control performance of roundup ready corn system (DK818 NK603) vis-à-vis farmers' practices.	Monsanto	11/26/04
2. Performance of roundup herbicide (360 g ae/L IPA salt) against weeds in glyphosate-tolerant corn.	Monsanto	11/26/04
3. Field verification of the agronomic performance of the transgenic stacked corn hybrid (NK603/MON 810) expressing the <i>Bacillus Thuringiensis Cry1AB</i> protein for resistance against the Asiatic corn borer and <i>CP4 EPSPS</i> for tolerance against the herbicide roundup.	Monsanto	12/10/04
4. Performance of Heculex 1 Bt transgenic corn hybrids against Asiatic corn borer under field conditions in the Philippines.	Dow Sciences	05/02/06
5. Field testing of transgenic papaya w/ delayed ripening trait.	IPB-UPLB	03/20/07
6. Multi-locational field efficacy verification trial of herbicide tolerant maize expressing event GA21 against glyphosate herbicide in the Philippines.	Syngenta	11/19/07

Source of Basic Data: Bureau of Plant Industry

The fruit and shoot borer resistant eggplant project of the Institute of Plant Breeding, University of the Philippines in Los Banos and the golden rice project of the Philippine Rice Research Institute mentioned in GAIN 7046, are still under the supervision of the National Committee on Biosafety of the Philippines. Therefore, they are not yet included in the BPI registry for field testing. The former is on schedule to be the first GE crop to be

commercialized sometime 2009. Expected to follow on or about 2010 are the golden rice and the transgenic papaya with a delayed ripening trait.

III. Biotechnology Policy

Soaring food and fuel prices are driving Philippine inflation up. According to data from the National Statistics Office, the inflation rate rose 9.6 percent in May 2008, higher than the 8.3 percent inflation the previous month and the 2.4 percent rate during the same period the previous year. Inflation for fuel, light, and water reportedly reached 8.2 percent in May 2008 compared to 4.0 percent last year, while inflation for food, beverages, and tobacco rose 13.7 percent compared to the 2.6 percent inflation recorded in May 2007. Food accounts for roughly 60 percent of a poor household's consumption expenditures. About a third of the population live below the poverty line. Exacerbating the increasing prices is the prevailing weakness of the Philippine Peso relative to the dollar. The Bangko Sentral ng Pilipinas or Philippine Central Bank predicts inflation to hit double-digit in June and predicts inflation for the entire 2008 at 7-9 percent. The original GRP inflation target was 3-5 percent for 2008.

Being a net importer of food and feed grains (rice, corn and wheat), increasing global grain prices have placed the country's food security status at risk. In the past, while the official Philippine government (GRP) policy on food security was that of self-sufficiency, the local farm sector did not receive adequate funding support. For rice, it made more economic sense to import the country's buffer stock rice requirements. However, with traditional rice exporting countries giving priority to its corresponding domestic markets over export sales, it has become logical for the Philippines to have more control over its food security concerns. This is evident in recent policy pronouncements that give emphasis to domestic agricultural production (refer to GAIN 8022 and 8023).

The spike in food prices has also resulted in stronger and more active Philippine support for the safe and responsible use of modern agricultural biotechnology. As the first Asian country to approve the planting of a biotechnology food crop, the country remains to be a consistent supporter of rational, science-based regulations, (see Capacity Building and Outreach).

The responsible GRP regulatory agencies and their roles in relation to Philippine biotechnology regulations remain unchanged as reported in GAIN 7046 and continue to be guided by DA-AO 8. The latter is expected to remain in effect as the Implementing Rules and Regulations of Executive Order No. 514 mentioned in GAIN 7046 have yet to be issued. These guidelines, when finalized and issued, are expected to remain science-based and will clarify further the scope and roles the different departments involved. Under DA-AO8, 28 TEs have been approved for food, feed or processing materials (see Appendix A), higher than the 25 approved TEs reported in the previous annual report.

As of March 19, 2008, 18 stacked trait products, up from the 15 approved combined trait products in GAIN 7046, have been approved. A summary follows:

SUMMARY OF APPROVED COMBINED TRAIT PRODUCTS				
as of March 19, 2008			Interaction of Resulting Gene Products	
Combined Trait Product	Technology Developer	Date Approved	Yes	No
1. Corn MON810 x Corn NK603	Monsanto	11/16/04 07/19/05		X

2. Corn NK603 x Corn MON863	Monsanto	11/16/04		X
3. Corn MON810 x Corn MON863	Monsanto	11/16/04		X
4. Corn MON810 x GA21	Monsanto	11/16/04		X
5. Cotton 531 x Cotton 1445	Monsanto	11/22/04		X
6. Cotton 15985 x Cotton 1445	Monsanto	11/22/04		X
7. Corn MON863 x MON810 x Corn NK603	Monsanto	02/07/05		X
8. Corn TC 1507 X Corn NK603	Pioneer	02/17/06		X
9. Cotton 15985 x Cotton 88913	Monsanto	04/20/06		X
10. Corn MON 88017 x Corn MON 810	Monsanto	07/03/06		X
11. Corn LY038 x Corn MON810	Monsanto	08/09/06		X
12. Corn DAS 59122 x Corn NK603	Pioneer	12/20/06		X
13. Corn Bt 11 x Corn GA21	Syngenta	01/23/07		X
14. Corn TC1507 x Corn DAS 59122	Pioneer	01/23/07		X
15. Corn DAS59122 x Corn TC1507 x Corn NK603	Pioneer	02/07/07		X
16. Corn Bt11 x Corn MIR 604	Syngenta	12/13/07		X
17. Corn MIR 604 x Corn GA21	Syngenta	12/13/07		X
18. Corn Bt11 x Corn MIR 604	Syngenta	03/03/07		X

Source of Basic Data: Bureau of Plant Industry

IV. Marketing Issues

Rice under the FY06 PL 480 Title I Program finally arrived in the country early this year. Shipment of the commodity was delayed for a year after anti-biotech groups opposed its arrival citing the possibility of its contamination by a GE rice variety (Bayer LL601 and/or LL62). Certified and tested to be GMO-free, the delayed program was only able to procure an estimated 44,000 MT of rice. The \$20 million program was originally projected to be sufficient for roughly 69,000 MT of the staple had it been shipped as scheduled. The decreased volume was the result of increasing rice prices.

LL601 rice has been declared safe for human consumption by the US Food and Drug Authority, the European Food Safety Authority, New Zealand Food Safety Authority and the Canadian Food Inspection Agency. LL62, on the other hand, has already been deregulated in the US and approved for planting by U.S. farmers. Both LL601 and LL62, however, have not been approved in the Philippines.

The temporary restraining order (TRO) imposed by the local court effectively prevented the BPI from issuing a biosafety permit for LL62 (refer to GAIN 7057). The TRO was extended forcing both the public and private defendants, the Office of the Solicitor General and Bayer, Philippines, respectively, to file separate motions to dismiss with the Court of Appeals. Hearings this year were conducted on February 8 and April 11. Both parties are currently await resolution from the judge.

Except for the rising prices of fertilizers, GE corn use, on the other hand, continues to be very positive. Prevailing high prices of corn, coupled with weak competition from imported feed grain as a result of high tariff protection, are expected to encourage increased planting of GE corn this year. The Philippine Maize Federation, the country's largest organization of

corn farmers, is supportive of GE corn use and is supported by the DA's Ginintuang Masaganang Ani program which provide corn farmers a planting seed subsidy at a rate of P1,200 (\$26.37) per hectare. Last year, GE corn seed suppliers reportedly had difficulty in supplying domestic planting seed as its popularity rose significantly. As a result, local seed companies are likely to expand capacities this year to satisfy rising demand.

V. Capacity Building and Outreach

The following website is the Biosafety Clearing-House website, which was developed in compliance to Article 20 of the Cartagena Protocol on Biosafety. It allows easy access to biosafety-related information such as contact details of pertinent agencies and National Focal Points; roster of experts on biosafety; relevant laws and regulations governing Living Modified Organisms (LMOs); risk assessments, decisions and declarations made on approved LMOs. The site also provides leads to events and opportunities aimed at building and improving biosafety capacity:

<http://bch.dost.gov.ph/system/>

In early June of this year, DA Secretary Arthur C. Yap made a very strong pitch in support of biotechnology at the sidelines of the Food and Agricultural Organization-hosted High Level Conference on World Food Security in Rome. Secretary Yap reportedly stressed that biotechnology had increased "overall productivity through increased farm yields". Secretary Yap also described biotechnology as key to the world's quest for food security amid the current shortage in the global food supply and escalating food prices.

Shortly thereafter, on June 24, 2008 in Washington DC, Secretary Yap signed a Memorandum of Agreement with USDA Secretary Ed Schafer to promote agricultural trade and investment between the two countries. The objective of the agreement is to advance agricultural cooperation, productivity and sustainable natural resource management through science and technology collaboration. "The Philippines and the United States share broad economic ties and a profound commitment to democracy," said Schafer. The agreement further strengthens the agricultural and strategic partnership through increased cooperation that standardizes food safety regulations, rural development, biotechnology, and product distribution and marketing between the two (2) countries.

The strategic partnership agreement has already manifested the initial screening of the first batch of prospective participants to the Norman E. Borlaug International Agricultural Science and Technology Fellows Program in Manila early this month. This maiden batch of Filipino candidates consists of scientists and technical experts endorsed by the GRP. In addition to the Borlaug Program, the COCHRAN Program continues to be the primary USDA biotechnology training program for Philippine regulators, policy-makers, technical staff and other biotechnology trainees.

APPENDIX A

APPROVAL REGISTRY FOR THE IMPORTATION OF REGULATED ARTICLES FOR DIRECT USE FOR FOOD, FEED & FOR PROPAGATION as of February 20, 2008						
		Safety Assessment				
Event	Introduced trait and gene	Date Approved	Food	Feed	Propagation	Developer
1. Corn MON 810	Resistance to corn borer Cry 1A (b) gene from <i>Bacillus Thuringiensis</i>	12/04/02	X	X	x	Monsanto
2. Corn Bt11	Insect protected, herbicide tolerant maize - Bt protein from <i>Bacillus Thuringiensis</i> and PAT protein from <i>Streptomyces viridochromogenes</i>	07/22/03 04/14/05	x	X	x	Syngenta
3. Soybean 40-3-2	Resistance to herbicide, R+B19oundup - CP4 EPSPS from <i>Agrobacterium sp.</i> Strain CP4	07/22/03	x	x		Monsanto
4. Corn NK603	Glyphosate tolerance imparted by the CP4EPSPS coding sequence	09/10/03 02/08/05	x	x	x	Monsanto
5. Corn MON 863	Cry3Bb1 for resistance to the Corn root worm, <i>Diabrotica sp.</i>	10/0703	x	x		Monsanto
6. Corn TC 1507/ CRY 1F	Resistance to certain lepidopterous pests in maize - Cry1F and PAT genes	10/0703	x	x		Pioneer
7. Corn DBT 418	Lepidopteran resistance, phosphino- tricin tolerance - Cry1Ac	10/22/03	x	x		Monsanto
8. RR Canola	Glyphosate (Roundup) tolerance - CP4EPSPS	10/22/03	x	x		Monsanto

9. Corn BT176	Insect protected - Bt protein from <i>Bacillus Thuringiensis</i> and PAT protein from <i>Streptomyces viridochromegenes</i>	10/24/03	x	x		Syngenta
10. Corn GA21	Modified <i>EPSPS</i> for tolerance to glyphosate	11/20/03	x	x		Monsanto
11. Corn DLL 25	Phosphinonoin (PPT) herbicide tolerance specifically glufosinate ammonium	11/20/03	x	x		Monsanto
12. Corn T25	Phosphinonoin (PAT) herbicide tolerance specifically glufosinate	12/05/03	x	x		Bayer Crop Science
13. Cotton 1445	Tolerance to Roundup herbicide	12/05/03	x	x		Monsanto
14. Cotton 15985	Resistance to lepidopterous pests	12/05/03	x	x		Monsanto
15. Potato Bt (RBBT02-06) and SPBT02-05	Resistance to Colorado potato beetle	12/05/03	x	x		Monsanto
16. Potato RBMT 15-101, SEMT 15-02 and SEMT 15-15	Resistance to Colorado potato beetle; resistance to potato virus Y (PVY)	12/22/03	x	x		Monsanto
17. Cotton 531	Resistance to lepidopterous pests <i>Cry 1Ac</i>	02/05/04	x	x		Monsanto
18. Potato RBMT21-129, RBMT21-350 and RBMT 22-82	Resistance to Colorado potato beetle - <i>CryIIIA</i> coding sequence, resistance to potato leaf roll virus (PLRV) - PLRV replicase	09/24/04	x	x		Monsanto

19. Sugar beet Event 77	Glyphosate (Round-up) Tolerance	10/21/04	x	x		Monsanto
20. Sugar beet H7-1	CP4EPSPS coding sequence from <i>Agrobacterium spp.</i> CP4 strain	07/28/05	x	x		Monsanto
21. Cotton MON 88913	Cotton contains the <i>cp4 epsps</i> coding sequence from soil bacterium, <i>Agrobacterium sp.</i> Strain CP4 which confers resistance to glyphosate, the active ingredient in Round Up herbicide	11/29/05	x	x		Monsanto
22. Corn MON 88017	Contains <i>Cry3Bb1</i> for resistance to the corn rootworm, <i>Diabrotica spp</i> and <i>cp4 epsps</i> for tolerance to glyphosate herbicide	03/08/06	x	x		Monsanto
23. Corn LY038	Contains <i>cordapA</i> coding sequence which is under control of the maize <i>Glb1</i> promoter than expresses the <i>Corynebacterium glutamicum</i> derived lysine insensitive <i>dihydropicolinate synthase</i> enzyme in the germ to increase the level of lysine in grain for animal feed applications.	05/19/06	x	x		Monsanto
24. Alfalfa J101 and J163		08/09/06	x	x		Monsanto
25. Corn DAS 59122-7	Contains <i>cry34Ab1</i> and <i>cry35Ab1</i> from <i>Bacillus thuringiensis w/c</i>	08/09/06	x	x		Pioneer

	confers resistance to certain coleopteran pests such as corn rootworm, <i>Diabrotica sp.</i> And the pat gene from <i>Streptomyces viridochromogenes</i> w/c provides tolerance to glufosinate-ammonium herbicides.					
26. Corn MIR604	Contains modified <i>Cry3A</i> from <i>Bacillus thuringiensis</i> subsp.tenebriones w/c confers resistance to corn rootworm.	10/08/07	x	x		Syngenta
27. Soybean MON 89788	Contains <i>cp4epsps</i> coding sequence from <i>Agrobacterium sp</i> strain. <i>CP4</i> which confers resistance tolerance to round up family of ag.herbicides.	11/16/07	x	x		Monsanto
28. Corn 3272	Expresses a synthetic thermostable alpha amylase protein AMY797E that catalyzes the hydrolysis of starch into soluble sugars.	02/07/08	x	x		Syngenta

Source of Basic Data: Bureau of Plant Industry